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Volume VIII of the *Publications,* to contain photographs of nebulæ and star clusters secured by the late Director KEELER and by Dr. PERRINE, has been in preparation for three years past. In common with the experience of others, difficulties have been encountered in securing satisfactory reproductions of the photographs. It has been found necessary to compromise between pictorial effects and strict scientific values, and a fair rate of progress has been made during the past year. It is hoped that means will be found in the near future to make several complete sets of positives on glass of these photographs for deposit with leading scientific societies in various centers of population, in order to make them available to all investigators who desire to study them in detail.

Volume IX of the *Publications* relates to the work of the D. O. Mills Expedition to the Southern Hemisphere. Parts 1, 2, and 3 have just been mailed to our correspondents. They include an account of the organization and history of the expedition by Director CAMPBELL, and a description of the instruments and methods by Acting-Astronomer WILLIAM H. WRIGHT, in charge of the expedition. The spectrograms secured by the expedition will have been measured and reduced in the course of a few months, and it is planned to publish the results for the 145 stars included in the programme as promptly as possible.

Volume X of the *Publications* is more than half through the press. It contains the results of meridian-circle observations by Astronomer R. H. TUCKER. The bound volume will be mailed before the end of the present year.

It is the intention to send out all completed volumes in bound form.

W. W. CAMPBELL.

MT. HAMILTON, September 23, 1907.

A FIREPROOF BUILDING ON MT. HAMILTON.

The construction of the half of a fireproof building is under way at the present time. It is not expected that the second half of the building will be constructed before the summer of 1909. The first half will contain, on the first floor, storage vaults for the valuable and extensive collection of observatory photographs, together with the records and computations for all the observations, visual as well as photographic, and such valuable smaller instruments as are not in daily use. The

second floor will consist of a photographic-enlarging room, fifty feet in length in the clear, provided with graduated steel track to carry the lenses and cameras used in this work. It is expected that these rooms will be available for occupation about January 1st.
W. W. CAMPBELL.

MT. HAMILTON, September 23, 1907.

IMPROVEMENTS TO THE CROSSLEY REFLECTOR.

Mr. F. G. PEASE, recently assistant to Professor G. W. RITCHEY, and now optical expert to The Scientific Shop, Chicago, spent a month on Mt. Hamilton figuring a convex hyperbolic mirror for the Crossley reflector, in order to convert it into the Cassegrain form with an equivalent focal length of seventy-five feet. The corresponding mechanical additions are in course of construction by the Lick Observatory instrument-maker. It is hoped to utilize the Cassegrain form in parallax and spectrographic researches.

MT. HAMILTON, September 23, 1907.
W. W. CAMPBELL.

RECENT PROGRESS IN THE CONSTRUCTION WORK OF THE SOLAR OBSERVATORY.

The figuring of the 60-inch mirror was completed by Professor RITCHEY in August, the residual errors not exceeding one tenth of a wave. The final tests were made with the aid of parallel light furnished by a 36-inch plane mirror, also figured in our optical-shop during the year. The various convex and plane mirrors required for the 60-inch reflector when used in the Newtonian and Cassegrainian forms are now being completed.

The mounting for this telescope will soon be finished in our instrument-shop. It is being assembled in Pasadena, and will be thoroughly tested there before being set up on Mt. Wilson.

The Mt. Wilson road was finished in May, and much of the structural steel for the building and dome of the 60-inch reflector has been taken to the summit. The erection of the building is advancing rapidly under the supervision of Mr. GEORGE D. JONES, who also completed the road.

The vertical cœlostat telescope, of twelve inches aperture and sixty feet focal length, has been erected on the mountain, and will be tested in September. The cœlostat and second mirror support by BRASHEAR and the 30-foot Littrow-grating